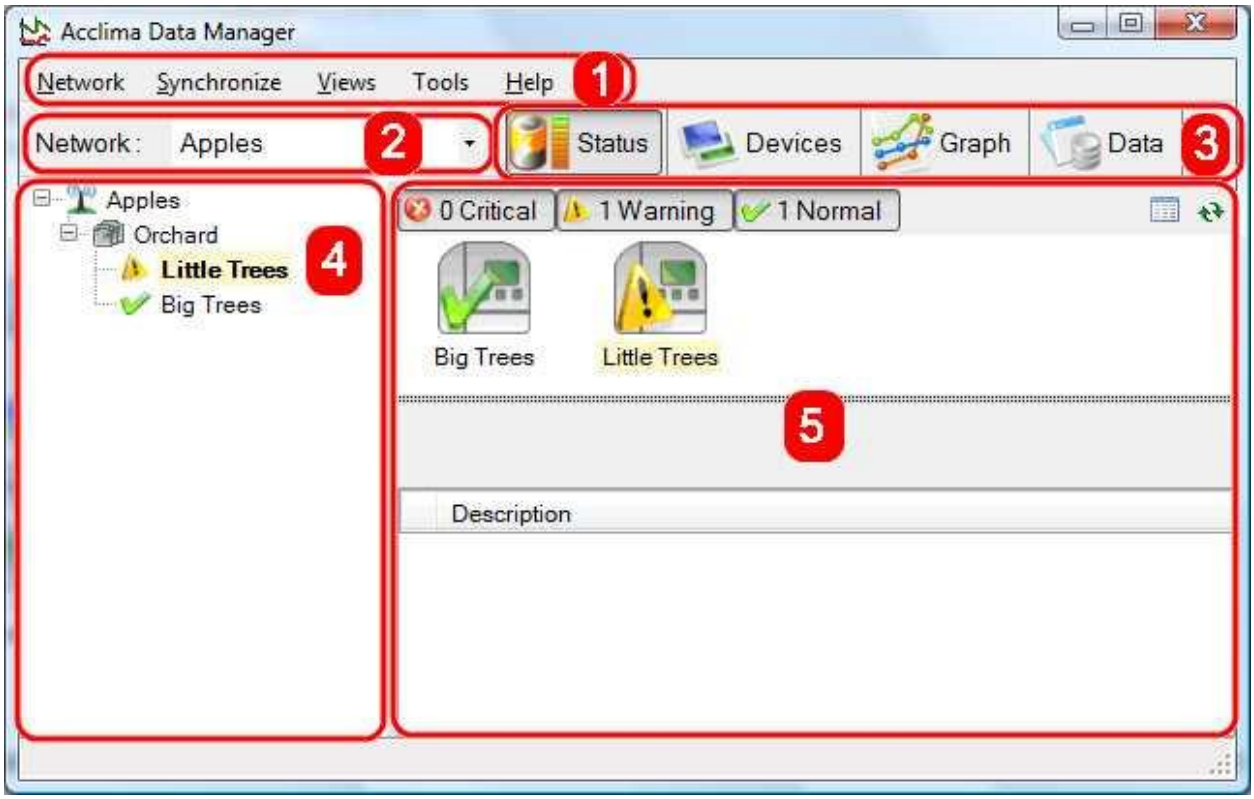
Acclima Data Manager Software

Introduction

The Acclima Data Manager Software allows users to do the following on any Acclima data logging device:

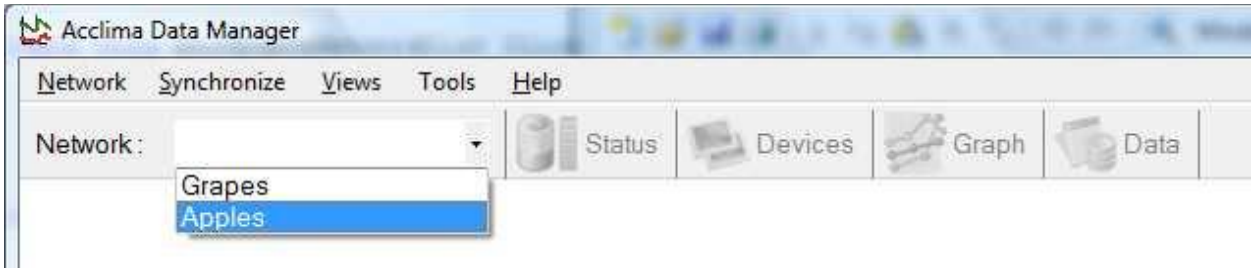
- view and modify configuration settings
- view the status of any device on a network
- view custom graphs of data
- view raw data



The main screen is divided into the following areas:

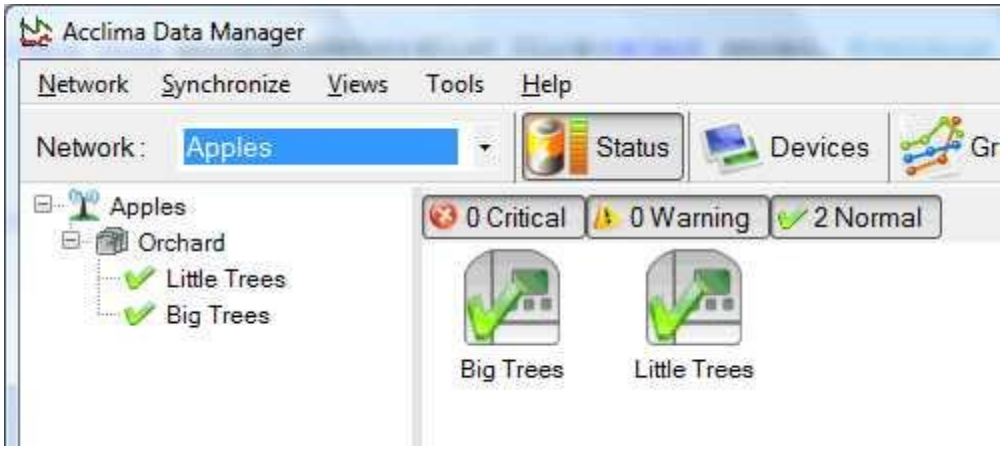
1. menu bar
2. network selector – used to select the network to be viewed
3. button bar – Quick access to the major views in the software
4. expandable tree view – shows all devices, by group in the current network
5. view area – changes according to the view you have selected. These are discussed in greater detail below.

The Acclima Data Manager allows a user to see data that has been gathered for 1 or more Acclima DATA Boss devices.



When first opening the software, you must select the network that you want to view. Notice in the picture above, there is a “Grapes” network and an “Apples” network. Select the desired network to view the devices that comprise the network.

Status Screen



Once a network has been selected, the status of each device is displayed in the “Status” screen. This information is not displayed in real time. It is current as of the last time this pc was synchronized with the device.

This screen shows the list of devices in the expandable tree view on the left hand side of the screen. In this example, there is a network named “Apples”. The network is comprised of two DATA Boss devices called “Little Trees” and “Big Trees”. Both devices are part of a group called “Orchard”. The network name, group name and device names are all configurable.

This screen shows the status or health of each device. This is noted by one of three categories:

Normal

The device is functioning within acceptable ranges.
Indicator: green check mark.

Warning

The device is functioning but will soon become critical.
Indicator: yellow triangle

Critical

The device is failing in some way. This may mean the battery is getting low, data is not being read correctly or there have been sever errors in the last 24 hours.
Indicator: Red circle

If you have a large number of devices, you can alter the display by selecting any of the filter buttons.

All buttons are selected by default so that all devices will be shown. Unselect a button to hide devices that are in that state. For example, if you want to see only the devices in a Critical or Warning state, unselect the Normal button.

You can also click on the “Change View” button to alter the layout of device status indicator. This is useful when you need to see more data on the screen without scrolling

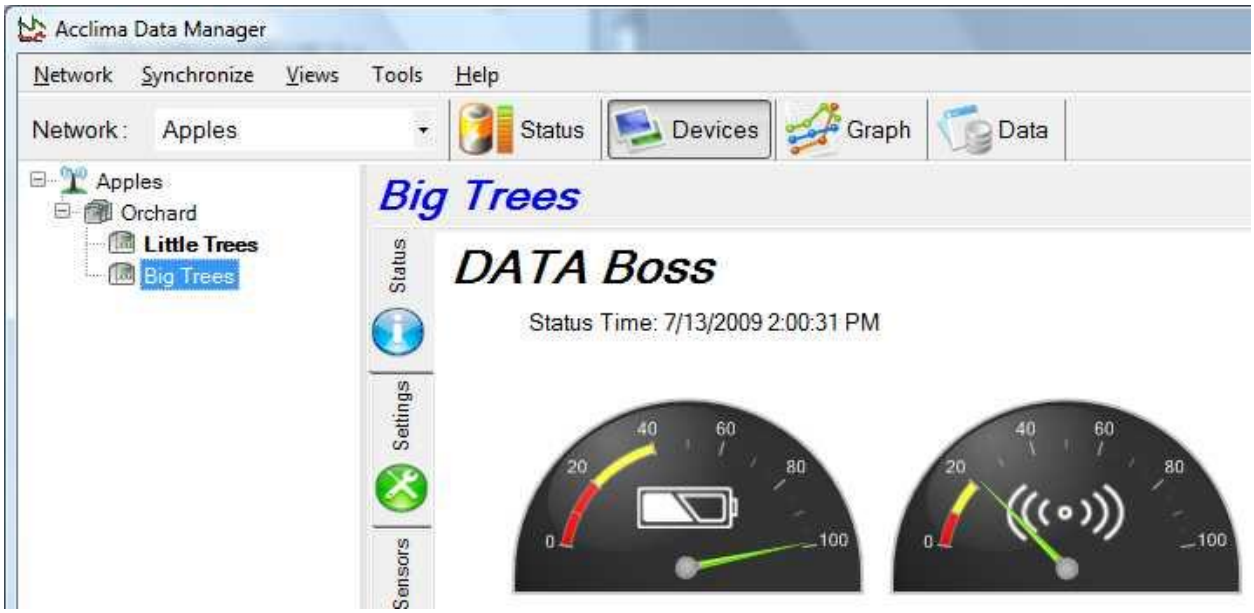
To see details as to why a device in a particular state, select the device icon by clicking on it and a list of details will be displayed in the lower window pane.

Devices Screen

The Devices screen shows current information about each device as of the last data synchronization. It also allows easy access to change configuration settings on the device.

The master/coordinating device is bolded in the tree view.

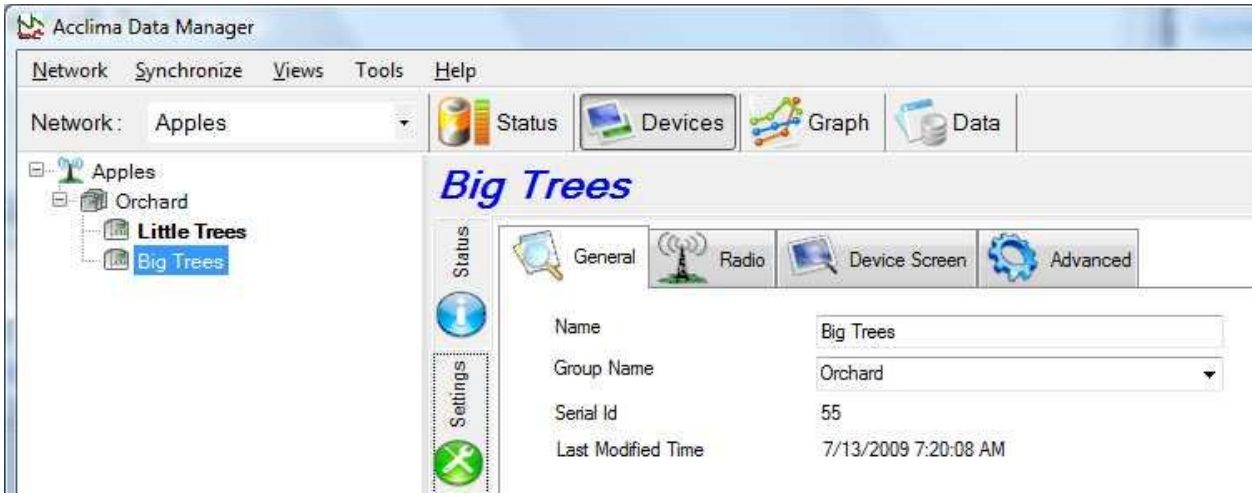
Device Status



The Status tab shows:

- the last time that the device was synchronized with this pc
- the battery life gauge
- the radio signal strength gauge
- SD Card usage – if an SD card exists in the master device

Device Settings



The Settings tab contains a secondary set of tabs that display current settings on the selected device. It also allows you to change many of the configuration settings on the device. The following settings may be changed:

General Tab

- Name – this is initially set to the device's unique serial id
- Group Name – a sub group for easier navigation in the software

Radio Tab

- Role – Set the device to be a master or router
- Mode – Set the current radio mode
- Locked – stay in the current network and don't allow mor devices to join in the network
- Learn – search for an active network to join
- Disabled – don't connect to a network
- Heart Beat Interval – how often the radio network will turn on
- Max Message Time
- Max Network Depth

Device Screen Tab

This allows you to change settings for the DATA Boss' built in screen. It does not change how data is displayed in the Data Manager software.

- On Time – length of time the screen stays on
- Backlight On Time – length of time the screen stays lit
- Contrast – brightness of the screen
- Units Format – the way units are displayed on screen (English or metric)
- Time Format – the way time is displayed (12 or 24 hour)

Advanced Tab

- Purge Logs on the Hardware
- Reset Device Configuration
- Show Factory Settings

You may modify the configuration settings of any or all of the devices that appear in the tree view. When you have completed making changes, you must click the "Commit" button

that will appear near the top of the screen. This button is not visible if no changes have been made.

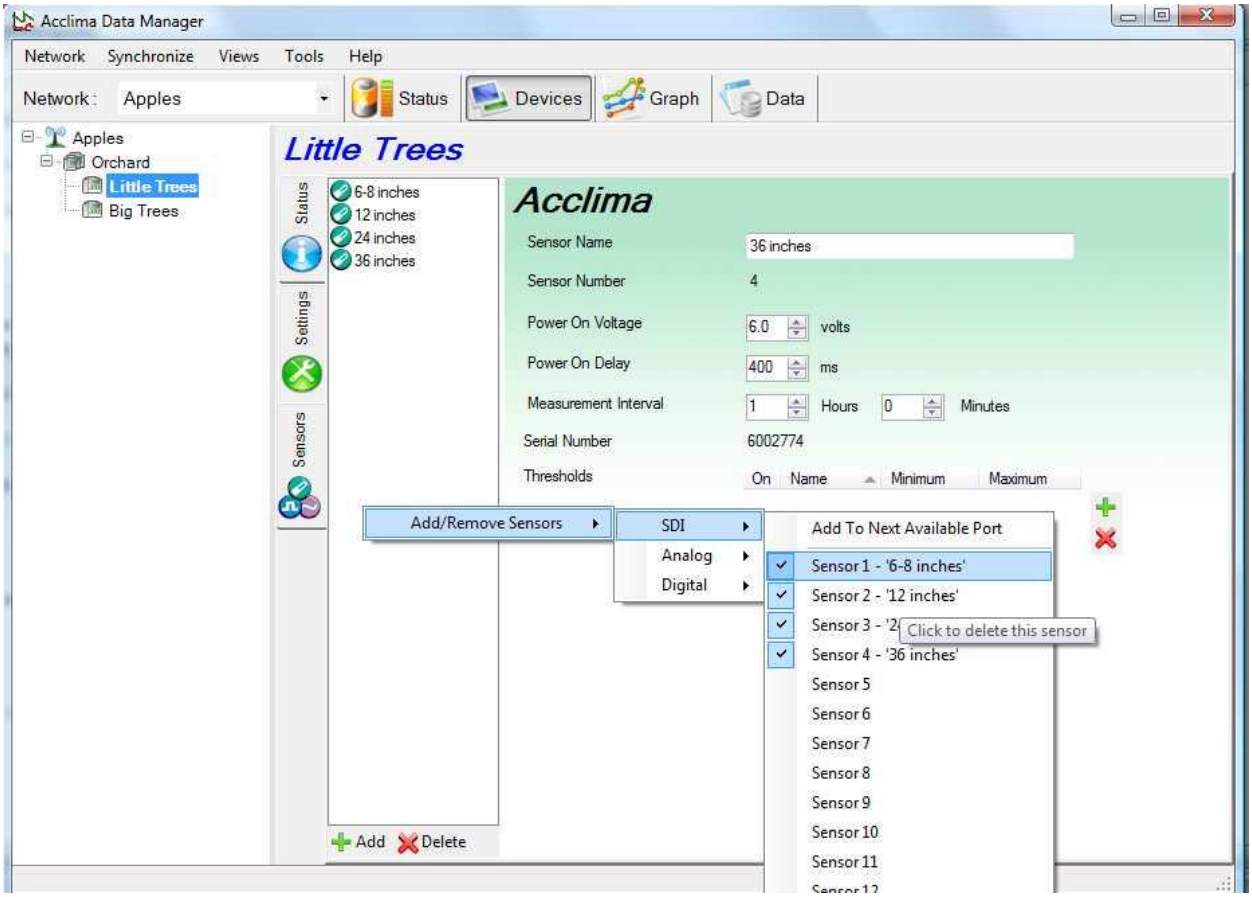
*** It is very important to remember that the changes you make will not be written to the device until the next successful synchronization with that device.

If you prefer, you can change device settings directly on the DATA Boss. However, changes made in the Data Manager software will overwrite changes that were made directly on the device.

Changes that have been committed but have not yet been saved to the device will appear in green in the tree view.

You may move devices between existing groups by dragging them in the tree view. But you may not have empty groups.

Device Sensors



The Sensors tab shows current configuration for each of the sensors defined on the device. It also allows the user to change configuration settings of each sensor.

To add a sensor, right click in the sensor list or click on Add button

below the sensor list. An “Add/Remove Sensors” menu will appear (see the picture above). From this menu, select the appropriate sensor type from the menu (SDI, Analog or Digital). Then select the “Add To Next Available Port” menu item. If you want to specify the position, you can do so by selecting the desired position from the menu. The sensor will be added to the sensor list using default settings. You may click the sensor in the list to display and modify its configuration settings.

To delete a sensor, select the sensor in the list and press the delete key on your keyboard. You can also right-click in the sensor list or click on Delete button

below the sensor list. Then click on the sensor type and position from the menu to remove the desired sensor.

When you are finished adding, deleting or modifying the sensors, you must click the “Commit” button.

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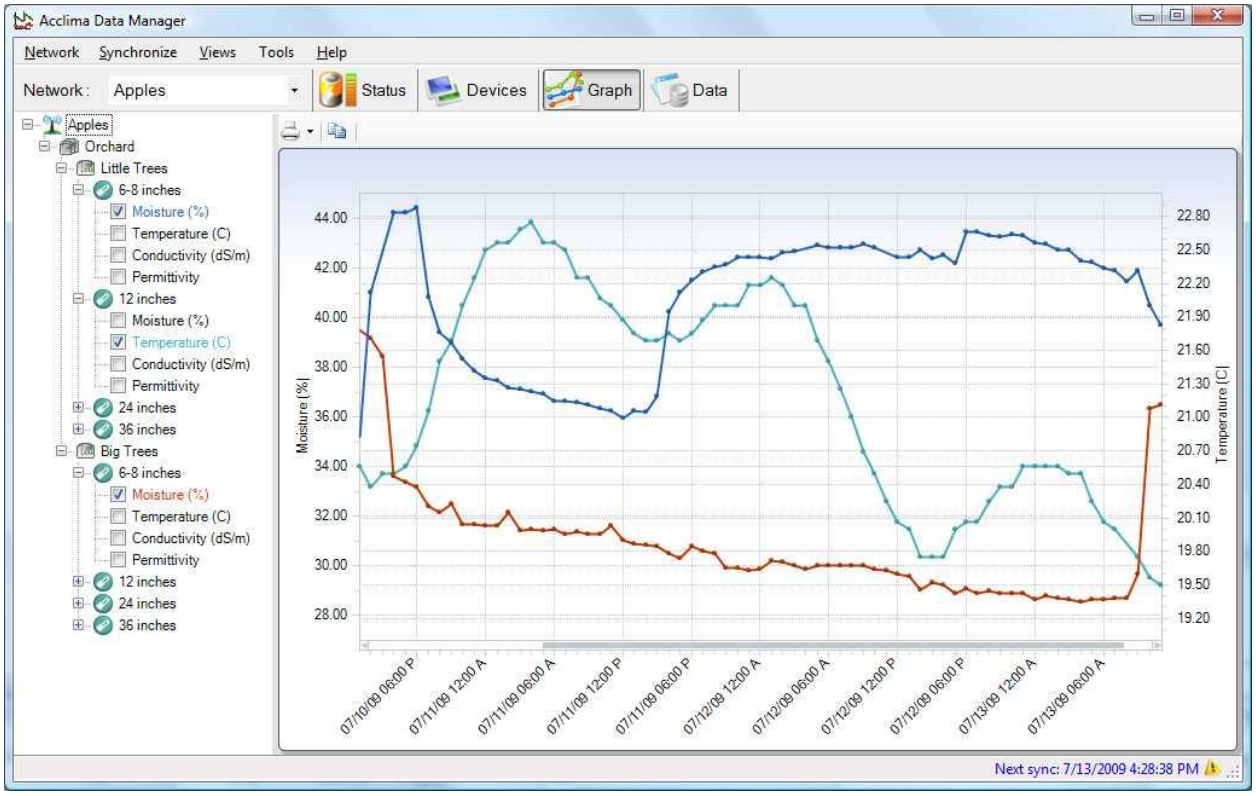
Graph Screen



The Graph screen allows you to graph multiple types of data from multiple sensors. Select the data series to plot from the tree view. Data of the same type will be plotted on the same Y axis. Each series will be a different color and will match the color of the text in the tree view. The maximum number of series on the graph is 12.

If you have defined thresholds for a sensor, right click any point in the series and select “Threshold” and then “Show” to display a horizontal threshold band.

You may print or copy the graph to the clipboard by selecting the appropriate button above the graph.

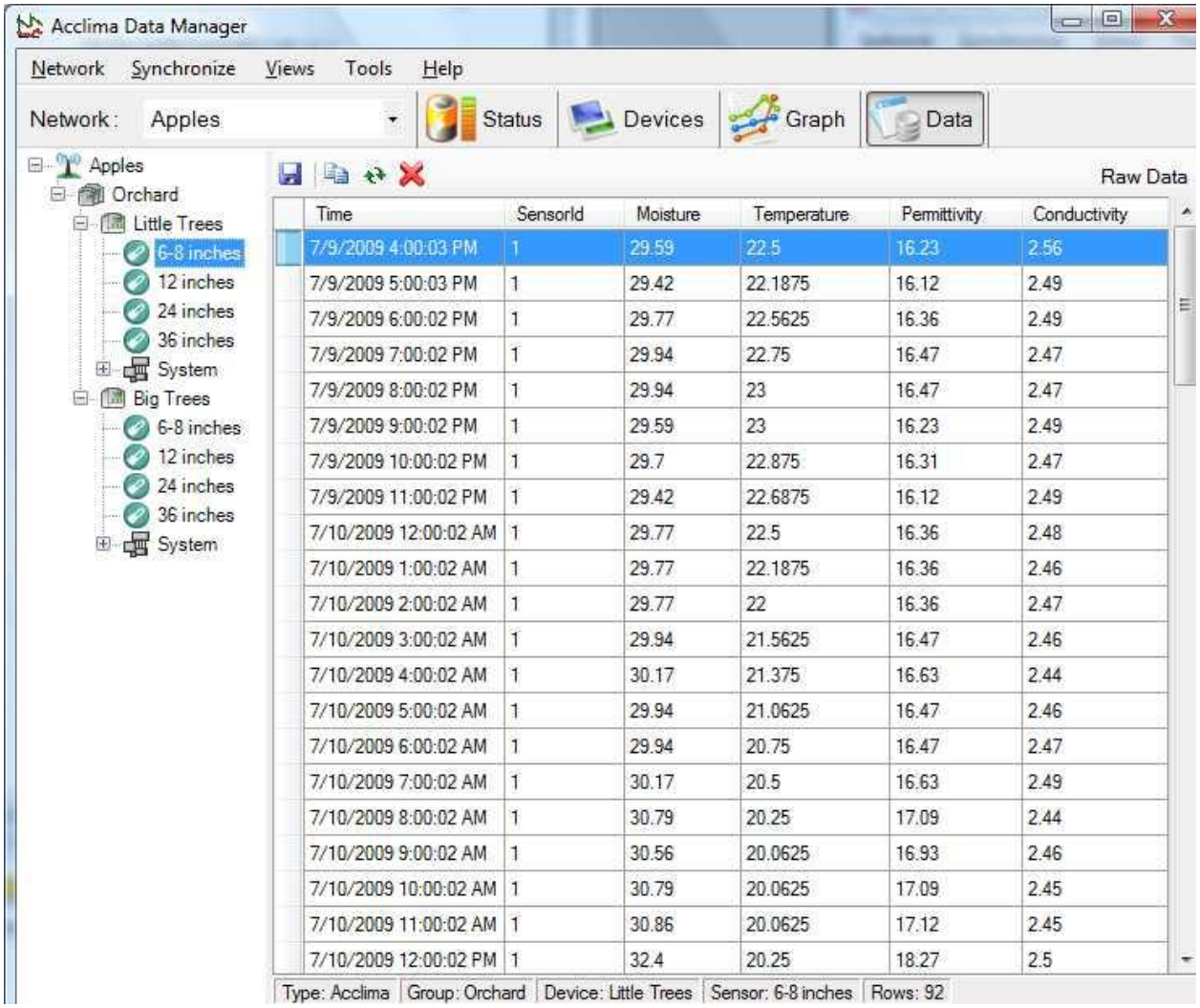
Hovering the pointer over a data point in the series will popup more information.
Hovering the pointer over an axis label will “turn off” data points that are less than the value you are hovering over.
There are many customization options accessible from the right-click menu.

Pan the graph by holding down the left mouse button over an axis and dragging the mouse.

Zoom the graph by holding down the right mouse button over an axis and dragging the mouse.

To zoom in on a rectangular area of the graph, place the mouse in the center of the area to be zoomed, hold the left mouse button down and drag to the desired size. You can return to the previous zoom level by clicking on the unzoom button . This button appears in the upper left of the graph if it is currently zoomed.

Data Screen



The Data screen allows you to view the underlying data that was retrieved from the DATA Boss. It is the same data that is used to create the graph. Select the sensor from the tree view on the left to see its data in the grid on the right.

You can Save, Copy, Refresh or Delete using the buttons above the grid.

You can click on the “Raw Data” button to see the unformatted data as it is stored in the DATA Boss.

Synchronization

Data from the DATA Boss is read and stored on the PC at regular intervals as defined in its configuration. This is done automatically and needs no human intervention. However, to manually force this synchronization to occur, select one of the items from the “Synchronize” menu.

Network

This will synchronize all devices on the connected network. The synchronization will not occur until the network wakes up

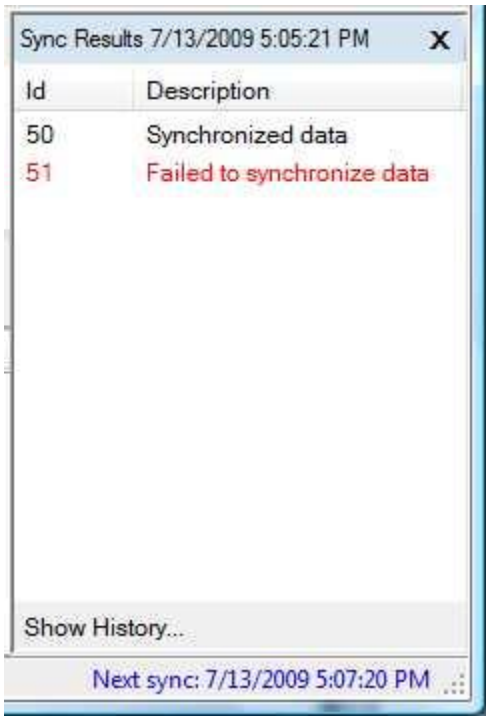
- Select the menus: Synchronize → Network

Connected Device

This will synchronize the connected device only. Since the device is connected to the PC with a cable, it will synchronize immediately regardless of whether the network is awake or asleep.

- Select the menus: Synchronize → Connected Device

Synchronization Results Window



The "Sync Results" window displays the status of the last synchronization attempt. It can be turned on or off in the options menu. If it is not visible, it can be displayed by selecting the Synchronize → Show → Sync Results menu. Double clicking on an item in the results list will display more information.

History

Historical synchronization attempts can also be viewed in several ways:

- Select the menus: Synchronize → Show → History…
- Click on the "Show History…" button on the

Firmware Update

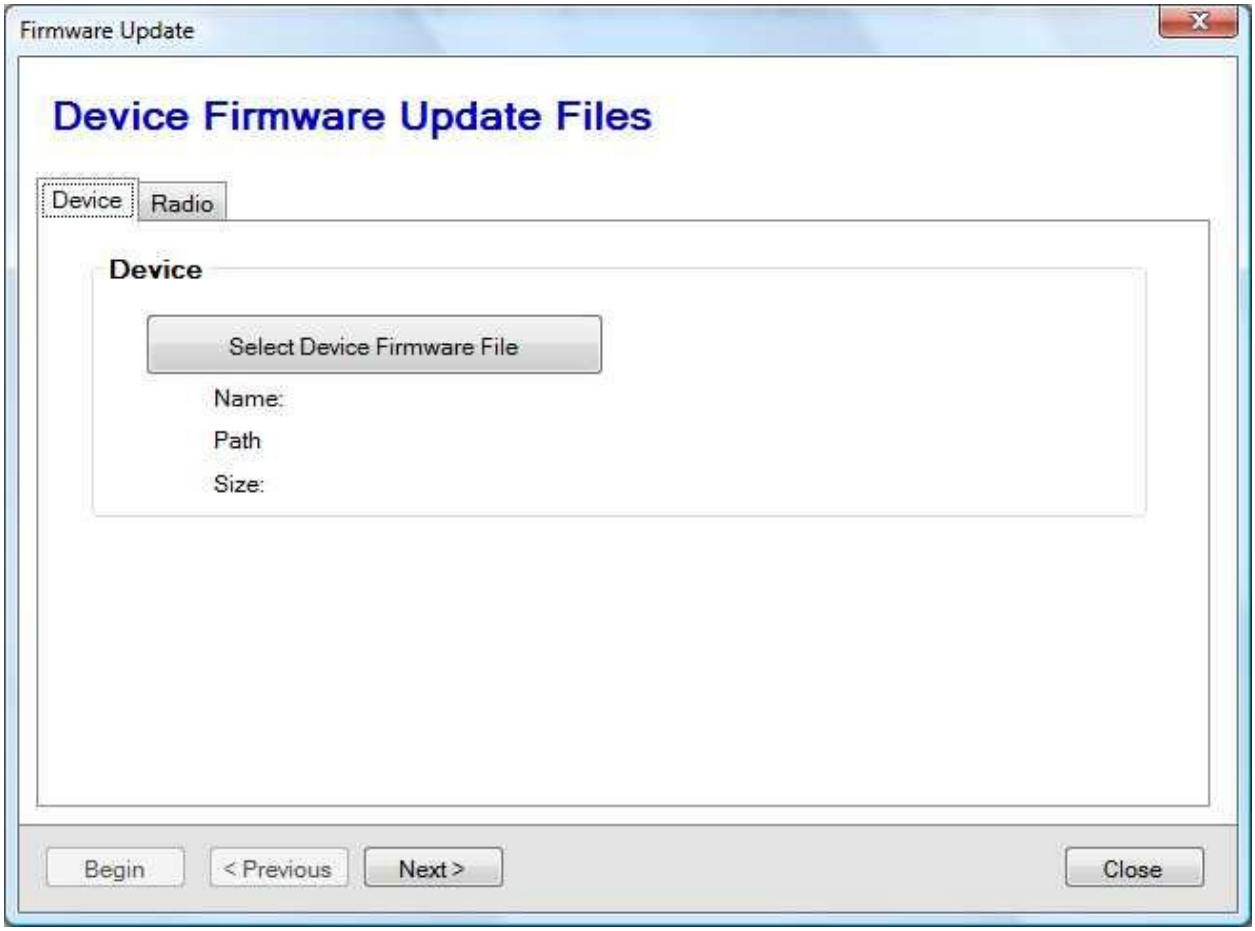
You may choose to update the device firmware, the radio firmware or both.

Update Connected Device

This will load the specified firmware version on the device that is connected to the PC with a cable

- Select menu: Tools → Firmware → Update Connected Device…

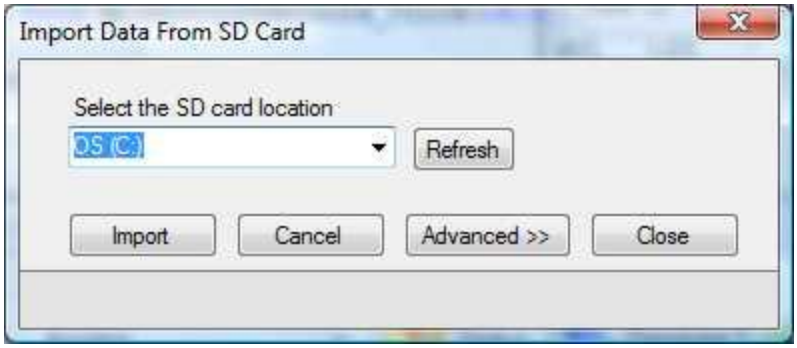
- On the Device tab, click on the “Select Device Firmware File” and select the desired device firmware file. (format: BOS_*.fw, HOP_*.fw, LNK_*.fw)
  Ie: BOS_8218.fw
- Click on the “Select Master Radio Firmware File” and select the desired master radio firmware file. (format: MST_*.fw)
  Ie: MST_810.fw
- Click on the “Select Router Radio Firmware File” and select the desired router radio firmware file. (format: RTR_*.fw)
  Ie: RTR_810.fw
- Click on the “Begin” button.



Import Data From an SD card

All DATA Boss devices have a slot for an SD memory slot. When an SD card is inserted, the device records all of its data to the SD card as well as into internal memory. The master device stores data for all devices on the network. The SD card can be removed at any time and its data can be imported into Data Manager. There are two ways to import the data: Basic mode and Advanced mode.

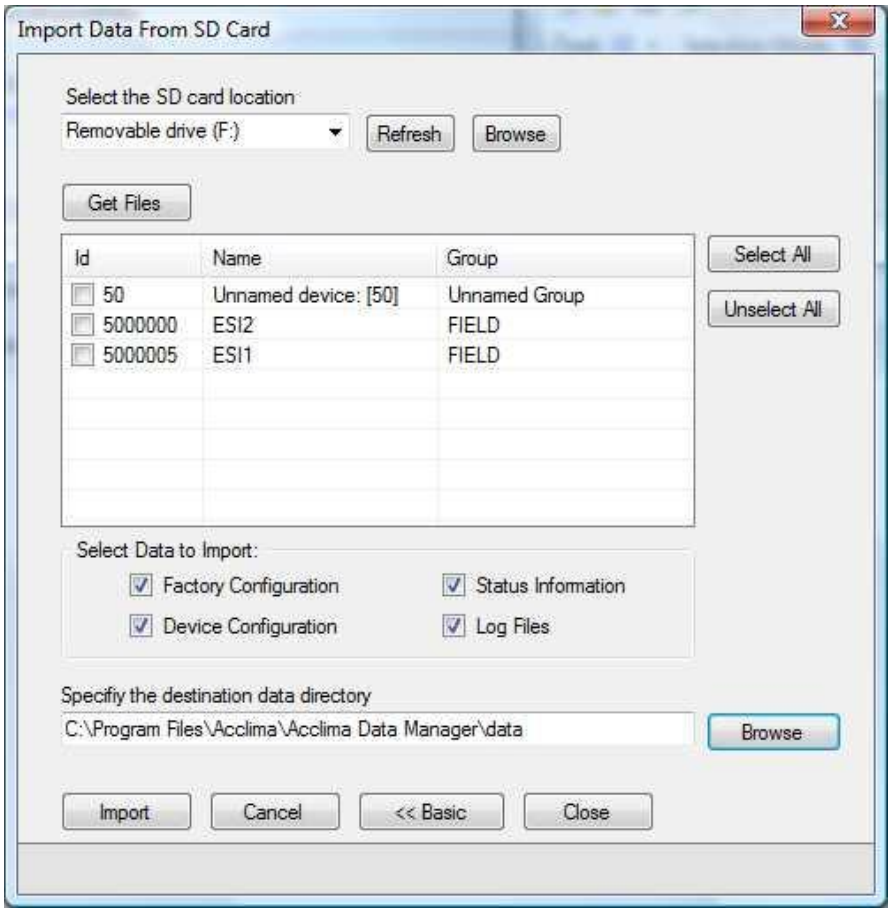
Basic Mode (assumes the SD card came directly from the DATA Boss)



- Connect your SD card to the pc
- Select the menus: Tools → SD card → Import Data…
- Select the SD card location in the drop down list

  This will default to the first removable drive on your system. If your device does not show in the drop down list, make sure it is properly connected and hit “Refresh”
- Click the “Import” button
- You will be notified when the import is complete.
- Close the Import window.

Advanced Mode



- Open the advanced view by clicking on the “Advanced >>” button.
- Select the SD card location. You may type in the location or select “Browse”.

The location must be the parent directory that holds the DATA Boss directories. It must be called "ACCLIMA". The software will add "ACCLIMA" to the end of the path if it is not specified. The following examples assume that the SD card is the F drive.

Example 1
If the path to my data is: F:\ACCLIMA\0000000A*.DAT
the SD card location should be F:\ or F:\ACCLIMA. Either will work.

Example 2
If the path to my data is: F:\Files\DataBoss\ACCLIMA\0000000A*.DAT
the SD card location should be F:\Files\ DataBoss or F:\Files\ DataBoss\Acclima. Either will work.

Example 3
If the path to my data is: F:\File\ DataBoss*.DAT
An error will be thrown because the parent directory is not called "ACCLIMA".

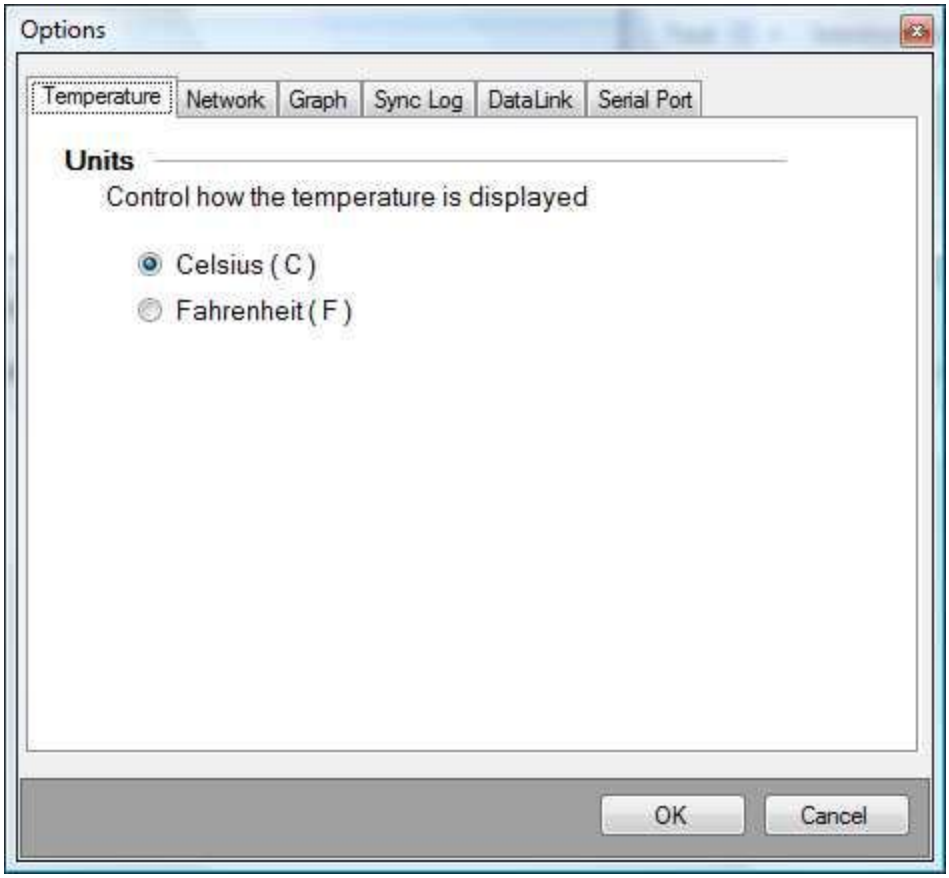
- Click on the "Get Files" button to see the list of devices that exist on the card.
- Select the desired devices to import by placing a check next to them in the grid.
- Select the types of "Data to Import". All types should be selected.
- Specify the destination data directory. This will default to the location that the Data Manager requires. If you select a different path, the data will not appear in Data Manager.
- Click the "Import" button.
- You will be notified when the import is complete.
- Close the Import window.

Even though you have successfully imported the data from the SD card, you may not be able to see the imported DATA Boss in the Data Manager. This will be true if the DATA Boss that you are importing data from has never been connected to or synchronized with the pc.

If the DATA Boss is not a member of any of your networks you will need to add the newly imported DATA Boss to a network. If there are no networks visible in Data Manager, you will also need to create a new network. Do the following to accomplish this

- Select the menus: Network → Manage…
- If you want to create a new network, click on the "Create" button at the top of the screen, enter the new network name and click on "OK". The new network will appear in the tree to the left.
- Select the desired network by clicking on it.
- In the grid at the right, select the devices to include in this network.
- Click on the "Save" button and close the window.
- The new network will now be available in the main window.

Options



The Options menu allows the user to customize the behavior of the Data Manager software. The following may be changed:

- Temperature – display in Celsius or Fahrenheit
- Network – automatically display a network at startup
- Graph – limit the amount of data on the graph and axis anchoring
- Synchronization Log – control how sync information is displayed
- DATA Link – define what network to join if connected to a DATA Link
- Serial Port – define how to find a serial port